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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/684,706

10/14/2003

Kimble Dong

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EXAMINER

AGGARWAL, YOGESH K

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/684,706	Applicant(s) DONG, KIMBLE	
	Examiner YOGESH K. AGGARWAL	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,21,22 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-7 is/are allowed.
- 6) ☒ Claim(s) 21,22 and 24-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 21, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rambaldi (US Patent # 6,618,084) in view of Houchin et al. (US Patent # 5,047,861).

[Claim 21]

With regard to claim 1 Rambaldi et al. disclose a MOS image sensor comprising: a pixel array formed from a plurality of pixels arranged in a matrix of rows and columns (pixel array area sensor 12, FIG. 1); location processing means for providing a digital location number for each pixel of the pixel array (column 9 lines 33-45) [while no specific location processing means are disclosed it is inherent that one must exist in order for the disclosed storing of the location to be accomplished, if no location processing means existed it would be impossible to determine what location to store for the defective pixels]; signal processing circuitry for reading out signals from the pixel array and outputting processed pixel signals (analog to digital converter 18, FIG. 1); dead pixel comparator circuitry for receiving the processed pixel signals from the signal processing circuitry and examining the processed pixel signals to see if they are indicative of dead pixels (fault analysis and correction block 24, FIG. 1, column 9 lines 19-33); location storage circuitry for receiving dead pixel information from the dead pixel comparator circuitry and for storing the digital location number generated by the location processing means for each dead pixel, wherein digital location numbers are stored in the location storage circuitry only for

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pixels that are determines to be dead pixels (memory 26, FIG. 1, column 9 lines 33-45); and location comparator circuitry for comparing the digital location number of a pixel that is being processed by the signal processing circuitry with the stored digital location numbers of dead pixels to determine if the pixel that is being processed corresponds to a dead pixel (fault correction block 24, FIG. 1, column 9 line 56 - column 10 line 45), wherein the pixel array and the dead pixel comparator circuitry are formed on a single integrated circuit (column 5 lines 29-35).

Rambaldi et al. disclose the image sensor of claim 1, but fail to disclose wherein the location processing means comprises a location shift register for indicating the digital location number of each of the pixels to the pixel array, the location comparator circuitry and the location storage circuitry. Houchin discloses The addressing of memory 40 is controlled by the output from address counter 50 which also controls the clock circuits 12 which control the readout sequence of image sensor 10 (col. 3 lines 45-48). It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the image sensor of Rambaldi et al. to include the pixel address counter of Houchin in order to know the exact pixel address currently being scanned.

3. With regard to claim 22 Rambaldi et al. disclose wherein the pixel array, the signal processing circuitry, and the dead pixel comparator circuitry are fabricated on a single MOS chip. It would have been obvious to include the location shift register of Houchin as part of that single chip in order to continue the process of creating compact circuitry for the camera device.

4. All limitations of claim 24 are addressed in the rejection of claim 21, claim 24 is likewise rejected.

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5. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rambaldi et al. (US Patent 6,618,084) in view of Houchin et al. (US Patent # 5,047,861) and Liang et al. (US Patent 5,781,233).

20. Claim 25 is rejected under the same analysis as claim 21, further Rambaldi et al. and Houchin et al. fail to disclose a means for precharging the plurality of pixels to a fixed voltage. Liang et al. disclose a means for precharging the plurality of pixels to a fixed voltage (column 6 lines 38-52). It would have been obvious at the time of the invention to one of ordinary skill in the art to modify the image sensor of Rambaldi et al. and Houchin et al. to include the precharging function taught by Liang et al. in order to provide signal amplification of the pixel signal (column 3 lines 9-13).

6. Claim 26 is rejected under the same analysis as claim 22. All limitations of claim 27 are addressed in the rejection of claim 21, claim 27 is likewise rejected.

Allowable Subject Matter

7. Claims 1, 3-7 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOGESH K. AGGARWAL whose telephone number is (571)272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571)-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yogesh K Aggarwal/
Primary Examiner, Art Unit 2622